TETON VALLEY REGIONAL WASTEWATER FACILITY UPGRADE PROJECT

Background: The Teton Valley Regional Wastewater Facility services the communities of Victor and Driggs along with the unincorporated areas of Teton County around the two communities. The total population served is around 3,000 people.

Current Facility: The current treatment consists of two aerated ponds along with two settling ponds and is rated to handle 600,000 gallons per day. Dry weather flows average around 350,000 gallons per day with wet weather flows reaching up to 1 million gallons per day at times. Both communities are working hard to reduce the wet weather flows. The facility was last upgraded in the late 90's.

Problems: The current facility is not able to meet the current discharge permit requirements consistently. The limits listed in the future discharge permit concerning ammonia cannot be met with the current facility technology. The plant has just been issued its second Notice of Violation from USEPA in five years for discharge permit violations.

Solution: An engineering study was completed in 2007 that analyzed several methods to upgrade the facility. However, the costs of the upgrade alternatives were not deemed to be affordable for the communities. At the time, the area was experiencing some growth and it was thought that the growth could fund the upgrades. However, that growth was short lived and with sewer rates already averaging in the low $30's per month, there is not much surplus in the budgets to fund the proposed projects. Two new and innovative Wastewater Treatment technologies - the **MSABP™** (Multi-Stage Activated Biological Process) by Aquarius and the Salsnes filter by Blue Water Technologies (an Idaho Company) were investigated. The **MSABP™** technology was actually piloted at the facility and proved to do all that was promised as an innovative and advanced process for treatment of municipal wastewater based on spatial microorganism succession and trophic hydrobiont chains.

The Salsnes Filter is an exciting new product for primary treatment in a wastewater plant. Salsnes Filter removes 40-70% TSS and 30% BOD. This simple device has a very small footprint and is easy to install and operate. The advantages of these technologies over conventional technologies are:

- With the Salsnes Filter in the front followed by the MSABP, ***no waste sludge is produced*** in the process, only a small amount of compressed and dewatered screenings that can be land filled easily. The natural process of the MSABP is waste sludge free!
- No Primary (Salsnes Filter replaces that) or Secondary Settling Required (MSABP does not need clarification.)
- No Return Sludge Pumping or monitoring of sludge age – just daily checking of the process.
- Hydraulic and Organic Shock Load Stability.
- High Quality Effluent – far exceeds existing lagoon effluent.
- Energy Efficient Operation – 60 % to 80 % of other technologies.
- Compact Footprint - will easily fit into on existing site.
- Labor costs are the lowest in the industry for mechanical treatment plants. Equal to what the City now does with its lagoon system meaning that no new employees are needed and electrical and chemical costs should reduce by 25%.
- This technology will meet the very strict ammonia limits now proposed by USEPA in the new discharge permit.

Estimated Costs: With engineering and planning, along with a contingency, the estimated cost of the project is **$8.5 million**. The biologic capacity of the plant will be 900,000 gallons per day expandable to 1.35 million gallons per day. The hydraulic capacity of this technology is very robust, and will handle extended flows of 1.8 million gallons per day and peak hour flows up to 2.0 million gallons per day.

Status: The MSABP system has been approved in many states, and has received approval in Idaho after being piloted at the Water Reclamation Facility. An amendment to the 2007 Engineering Report has been completed and approved. An Environmental Information Document (EID) is nearly complete and ready for State review as well.

Funding: Idaho DEQ has approved funding for this project for $8.5 million, with $1,785,000 being grant funding and the remainder a 20-year, 0% interest loan. To obtain this funding, the City will have to raise its rates to 1.5% of the median household income which is just over $50 per month.